

AMENDMENT TO THE CLAIMS:

1-8 (Cancelled)

9. (Original) A manufacturing method for a glass substrate of which the outer periphery portion is unprocessed, characterized in that a first lapping process, a second lapping process, a polishing process and a washing process are carried out after a press molding process is carried out so as to compress glass between an upper mold and a lower mold without regulating the edge surface of the outer periphery portion of the glass and, then, a crystallization process or an annealing process is carried out.

10. (Original) A manufacturing method for a glass substrate of which the outer periphery portion is unprocessed, characterized in that a center of gravity coring process wherein a center hole is created using the center of gravity as the center of the hole is carried out and a first lapping process, a precision inner periphery edge surface process, an inner periphery edge surface polishing process, a second lapping process, a polishing process and a washing process are carried out after a press molding process is carried out so as to compress glass between an upper mold and a lower mold without regulating the edge surface of the outer periphery portion of the glass and, then, a crystallization process or an annealing process is carried out.

11. (New) A manufacturing method for a glass substrate, comprising the steps of:
compressing glass between an upper mold and a lower mold in contact with upper and lower portions of the glass and not in contact with outer periphery of the glass, to give disk-shaped form; and
subjecting the above molded glass to a crystallization process or an annealing process, a lapping process, a polishing process and a washing process.

12. (New) The manufacturing method for a glass substrate of Claim 11, wherein the upper mold and the lower mold have respectively a molding surface having planar form.

13. (New) The manufacturing method for a glass substrate of Claim 11, wherein a parallel spacer is intervened between the upper mold and the lower mold while the outer periphery portion of the glass and the parallel spacer maintain the non-contact condition.

14. (New) The manufacturing method for a glass substrate of Claim 13, wherein the spacer makes surface contact with molding surface of the lower mold.

15. (New) The manufacturing method for a glass substrate of Claim 11, wherein in the crystallization process, the glass substrate is heated up to the glass transition point (T_g) + 50°C to T_g + 300°C of the glass material, the glass substrate is generally cooled to a temperature in the vicinity of the glass transition temperature (T_g), and then the glass substrate is gradually cooled.

16. (New) The manufacturing method for a glass substrate of Claim 11, wherein in the annealing process, after the glass substrate is maintained at a temperature in the vicinity of the T_g of the glass, the glass substrate is generally cooled to the warp point at a comparatively slow speed of cooling and, afterwards, the glass substrate is cooled at a comparatively high cooling speed.

17. (New) The manufacturing method for a glass substrate of Claim 11, further comprising an inspection step in which the substrate form is confirmed to be in within the desired ranges.

18. (New) The manufacturing method for a glass substrate of Claim 11, further comprising forming a recording layer on the substrate.

Clean Copy of the Claims:

1. A glass substrate of which the outer periphery portion is unprocessed.
2. A glass substrate of which the outer periphery portion is unprocessed having the center of gravity as the center of rotation.
3. The glass substrate of which the outer periphery portion is unprocessed according to Claim 1, wherein the outer periphery edge surface is a free-form surface having a surface coarseness 2.5 nm, or less, and having a maximum surface coarseness of 150 nm, or less.
4. The glass substrate of which the outer periphery portion is unprocessed according to Claim 1, wherein E/ρ (E is the Young's modulus (GPa) and ρ is the specific gravity (g/cm^3)) is 27 to 52.
5. The glass substrate of which the outer periphery portion is unprocessed according to Claim 1, wherein α_s (α_s is a linear thermal expansion coefficient in the range of 0°C to 100°C) is $40 \times 10^{-7}/^\circ\text{C}$ to $130 \times 10^{-7}/^\circ\text{C}$.
6. A glass substrate of which the outer periphery portion is unprocessed, comprising amorphous glass material or crystallized glass material having the following composition: 65 wt.% to 85 wt.% of SiO_2 , 3 wt.% to 15 wt.% of Al_2O_3 , 0 wt.% to 12 wt.% of MgO , 0 wt.% to 10 wt.% of TiO_2 , 3 wt.% to 12 wt.% of Li_2O , 0 wt.% to 10 wt.% of ZnO , 0 wt.% to 5 wt.% of P_2O_5 and 0 wt.% to 10 wt.% of ZrO_2 .
7. A glass substrate of which the outer periphery portion is unprocessed, comprising amorphous glass material or crystallized glass material having the following composition: 45 wt.% to 60 wt.% of SiO_2 , 12 wt.% to 25 wt.% of Al_2O_3 , 12 wt.% to 25 wt.% of MgO , 0 wt.% to 12 wt.% of TiO_2 , 0 wt.% to 12 wt.% of Li_2O , 0 wt.% to 10 wt.% of ZnO , 0 wt.% to 5 wt.% of P_2O_5 , 0 wt.% to 10 wt.% of ZrO_2 , 0 wt.% to 5 wt.% of Nb_2O_5 , 0 wt.% to 5 wt.% of Ta_2O_5 and 0 wt.% to 5 wt.% of Y_2O_3 .
8. A glass substrate of which the outer periphery portion is unprocessed, comprising amorphous glass material having the following composition: 50 wt.% to 69 wt.% of SiO_2 , 0 wt.% to 15 wt.% of B_2O_3 , 4 wt.% to 25 wt.% of Al_2O_3 , 2 wt.% to 7 wt.% of Li_2O , 0 wt.% to 14 wt.% of Na_2O , 0 wt.% to 18 wt.% of K_2O , 0 wt.% to 6 wt.% of CaO , 0 wt.% to 3 wt.% of Ta_2O_5 , 0

wt.% to 6 wt.% of BaO, 0 wt.% to 6 wt.% of MgO, 0 wt.% to 6 wt.% of SrO, 0 wt.% to 6 wt.% of ZnO.

9. A manufacturing method for a glass substrate of which the outer periphery portion is unprocessed, characterized in that a first lapping process, a second lapping process, a polishing process and a washing process are carried out after a press molding process is carried out so as to compress glass between an upper mold and a lower mold without regulating the edge surface of the outer periphery portion of the glass and, then, a crystallization process or an annealing process is carried out.

10. A manufacturing method for a glass substrate of which the outer periphery portion is unprocessed, characterized in that a center of gravity coring process wherein a center hole is created using the center of gravity as the center of the hole is carried out and a first lapping process, a precision inner periphery edge surface process, an inner periphery edge surface polishing process, a second lapping process, a polishing process and a washing process are carried out after a press molding process is carried out so as to compress glass between an upper mold and a lower mold without regulating the edge surface of the outer periphery portion of the glass and, then, a crystallization process or an annealing process is carried out.